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Abstract

In this paper, we discuss the relevance of interactivity in online communities, develop a framework that helps to assess interactivity in this context and use this to assess interactivity in a specific online community, that of RealShare, that is being piloted for teenagers and young adults with cancer. The results so-far have shown that though there is a need for interactivity in the online community, this was in practice limited with only one feature of it being evident in the study.

Keywords: online communities, interactivity, communication

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1 INTRODUCTION

Online communities are known for bringing individuals together to interact and share interests and knowledge in a computer-mediated environment. In this paper, we examine the levels of interactivity in this context and argue that though interactivity has been studied in other online settings such as e-tailing (Yoo et al, 2010) and web-based advertising (Fortin and Dholakias, 2005) studies in the context of online communities have lagged, despite the highly relevance of the concept in this context.

The study is driven by the need to understand the factors that influence interactivity in online communities. For this purpose we examine a specifically-set up online site for teenagers and young adults (TYA) with cancer and we study its use for a period of five months.

The paper is structured as follows: we first introduce the concept of interactivity and its key features and discuss its relevance to the study of online communities. We then present the research site and methods adopted for the data collection. Results and analysis of the findings so-far are then presented and tentative conclusions are drawn.

2 INTERACTIVITY IN COMMUNICATION: CONCEPTUAL FOUNDATIONS

With advancements in web technologies, interactivity has become a buzzword (Fortin and Dholakia, 2005), however its definition has been loose. In the social and organizational science literature, interactivity has been described as responsiveness (Rafaeli, 1988), aninterplay (Goffman, 1983), a chain of interrelated messages (Schultz, 1999), a by-product of dialogue (Ford, 1999) that leads to mutual influence (Lee, 1998). It is important noting however that even though interactivity emerges from communication, it does not characterise all communication settings. According to Rafaeli (1988) and Rafaeli and Sudweeks (1998) there are three types of communication; declarative, reactive and interactive; declarative communication is one-way, either from one-to-one or even one-to-few or many; reactive communication is a type of two-way communication where one side simply responds to another side; finally, interactive communication requires that later messages in any sequence take into account the messages that preceded them, and also the manner in which previous messages were reactive (Rafaeli and Sudweeks, 1998). It has been found that messages that are defined as 'interactive' are more opinionated, more humorous, more self-disclosing, more personal, and more likely to express agreement than non-interactive or reactive messages (Rafaeli and Sudweeks, 1996, in Sudweeks and Rafaeli, 1996).

The importance of interactivity to the furtherance of human communication has long been recognised in social science research (Goffman, 1967; Habermas, 1984). In information systems, interactivity has received significant attention as a result of research on human-computer interactions and recently on computer-mediated communication. Two views of interactivity have emerged in this literature (Hoffman and Novak, 1996); person interactivity that is human to human interactivity that occurs between humans through a medium and machine interactivity that occurs between humans and machines (e.g. Steuer, 1992). Based on the former, Fortin and Dholakia (p.388) defined interactivity as the degree to which a communication system allows one or more users to communicate alternatively as senders or receivers, either in real time or on a store and forward basis. Steuer on the other defined interactivity as interactivity as the extent to which users can modify the form and content of a mediated environement in real-time. The latter has been a view that was adopted by HCI researchers, whilst social scientists developed an interest in human to human interactivity in technology-mediated situations. In this regard, interactivity has been studied in e-tailing (You, Lee and Park, 2010) and in the case of web-based advertising (Fortin and Dhokakia, 2005). Though highly relevant, interactivity has not been studied in the case of online communities. In what follows, we explain the relevance of interactivity for the study of online communities and introduce the approach that will be adopted for the purpose of this study.

3 THE RELEVANCE OF INTERACTIVITY IN ONLINE COMMUNITIES

Fernback and Thompson (1995, p.8) describe online communities as 'social relationships forged in cyberspace through repeated contact within a specified boundary or place that is symbolically delineated by topic of interest'. Although not communities in the traditional sense, online communities are similar to traditional ones as they are formed through a common interest rather than due to a shared physical space (White and Dorman, 2001). They therefore offer opportunities to people, despite their geographical dispersion to develop relationships, to exchange information and provide support to one another. Studies have shown that a sense of identification with like-minded individuals may drive participation in online communities (Blanchard and Markus, 2002). In this study, we propose that interactivity among members will have a positive impact on the sustainability of an online community. With interactivity, mutual understanding develops among community members (Ford, 1999). As Rafaeli and Sudweeks (1997: 12) vividly put it: "the presence of interactivity in the behaviour of groups is both evidence for their reality and a mechanism for their formation". In doing so, interactivity does not only help improve commitment among team members to jointly develop action plans, but it also enables focussing attention on the tasks while playing a key role in knowledge creation.

In the past, face-to-face interaction has provided the standard by which interactivity has been evaluated in the communication literature (e.g. Zack, 1993). Increasingly however individuals join online communities to gain new knowledge, support or to find new meaning in their life. Geographical dispersion, cultural and language issues as well as political reasons may be reasons for the use of online communication means (Lee and Panteli, 2010).

Levels of interactivity have been assessed in terms of its multidimensional character taking account of its key features: controllability, bi-directionality and synchronicity (Yoo et al, 2010). Controllability refers to users' ability to manipulate the communication in terms of its content, timing and sequence; synchronicity refers to the speed of communication and the response that this triggers which facilitates communication; bi-directionality refers to senders and receivers having inter-changeable roles. To this list we add the successionality feature which reflects the extent to which preceded messages have been incorporated in communication. In particular, the succession dimension broadens up the scope of communication and is of particular relevance to the online communities as it enables the sharing of existing information and knowledge whilst it provides opportunities for knowledge sharing and idea generation.

4 RESEARCH SITE AND PARTICIPANTS

RealShare is an online platform that was developed to form a community for teenagers and young adults with cancer. An exploratory study was carried out to examine the use of this platform for a period of five months.

Evidence has shown that teenagers and young adults with cancer often fall between paediatric and adult cancer care, and neither can fully address the needs of the TYA patient. University Hospitals Bristol in partnership with North Bristol Trust is the designated Principle Treatment centre for TYA with cancer for the south west region. Such centres are of vital importance not just for offering treatment but also for creating peer support groups, offering unconditional acceptance and information whilst reducing feelings of isolation and rejection (Cassano, 2008; Treadgod, 2010, Weis, 2003; Ussher, 2006). Despite these benefits, the geographical dispersion of the target population often means that not all patients have access to the same facilities and support that they need during their treatment. Indeed, Campbell (2004) identified geography can present a challenge for face to face peer support.

The geographical challenge across the South West England presents patients and carers with a similar dilemma. Attempts to address this issue have been the emergence of online groups. Gaulin (2010)

supports the idea that as more adolescents and young adults are more comfortable with communicating via the internet then it makes sense to try to offer support services via the internet to try to reach them. The most obvious benefits to the TYA community having support using an online vehicle is the removal of the physical distance that constrains access to face to face group. Treadgold (2010) suggests that the online support can also overcome physical limitations that can be imposed by the adverse effects of treatment. Davison's (2000) work found that patients with diseases that present physical barriers to attending support groups showed the highest rate of online support group participation.

5 RESEARCH APPROACH

The intention of this exploratory research is to investigate how the level of users' interactions changes with different interventions. Using our selected participants, we therefore sought to compare the level of interactions in the different phases of the study.

5.1 Participants' Selection

The first part of the project which took place between September and October 2010 aimed to identify suitable participants for the study and understand their needs and expectations with regard to online community participation. With the use of Facebook and other Social Networking Sites, but also through the Teenage Cancer Trust and South West Hospitals the project team got in contact with cancer patients in the teenage and young adults category and invited them to participate in the use of Realshare during the trial period. In total, 12 individuals aged 16 to 26 with equal amounts from each gender were invited to attend. Apart from age and health situation, another criterion that influenced their selection was their geographical location. All participants represented different parts of the South West region and their participation was totally voluntary. Attention was taken to schedule research so not to disrupt participant's treatment, schooling or work. An information sheet was disseminated giving information about the nature of the project and participants' commitment to it. A consent form was also signed by all participants before their involvement in the project. A further consideration was to ensure that participants did not know each other prior to the research, as this would pollute the findings with regard to the creation of a community. To address this the participants were asked if they knew any other teenagers or young adults with cancer in their area, their answers were then crossed referenced with the participants list. In addition the researcher asked if anyone already knew each other within the introductions sections of the focus groups, the answer was a unanimous no.

5.2 Project Procedure

Following participants' recruitment and approval of activities from the Steering Committee, focus groups were arranged in November with the chosen participants in order to understand their needs and expectations and overall to understand how they hope to use the online tool.

Thereafter, the project involved two phases which aimed to assess members' interactions with each other and where appropriate with the facilitator. Observations of online interactions during the different phases that included topic, content and level of participants constituted the main research method of the study.

Phase 1 aimed to identify how participants make use of the online tool without any intervention. In this case, participants were introduced to the tool and what it could do and then left on their own to decide how best to use it. A research assistant will be 'silently' observing and recording their online interactions and report to the project team.

In Phase 2 a facilitator prompted user interaction by offering different types of support including informational and emotional support. In this phase, the analysis will ask the question: "how does the presence of the facilitator affect members' engagement with the community?"

Following the completion of the interventions, focus groups will be carried out with the aim to understand users' views, experiences and satisfaction with the various interventions. During these groups, data will be collected which will address the main issue of interactivity. Participants will be questioned in detail concerning the flow of interactions that took part in and observed over the different phases of the project. Furthermore, after the qualitative data collection participants will be asked to complete a 12 question interactivity metric using a 5 point Likert scale. This aims to provide direct data concerning key aspects interactivity that can be analysed using descriptive statistics. This work package will collate information in order to compare and assess the various interventions and provide recommendations. A final evaluation report will be submitted to the Funder by the completion of the project.

6 ANALYTICAL APPROACH

Thematic analysis served as the analytical approach of the study (Braun and Clarke, 2006). According to this approach, researchers should identify, analyse and report "patterns (themes) within data" (p.79). Themes present in the data can be acknowledged in two ways within a thematic analysis: in a theoretical or deductive or 'top down' approach (eg, Boyatzis, 1998; Hayes, 1997) or alternatively a inductive or 'bottom up' approach (eg, Frith and Gleeson, 2004). The latter, which is arguably similar to a 'lite' version of grounded theory (Braun and Clarke, 2006) involves a process of coding the data without the need to fit a pre-existing theoretical framework. While the former represents an analysis driven by the analytical and theoretical interests of the research project a hand. This type of thematic analysis tends to deliver a less rich overall description of the data with a more detailed analysis of some aspect (Braun and Clarke, 2006).

Given that focus groups are relatively deductive in nature, aiming to identify the needs, views and expectations of Teenagers and Young Adults (TYA), in order to contribute to the co-creation of a virtual community. Coding was conducted in mind of specific salient research question, akin with the assertions of Braun and Clarke (2006). Hence this research accepts a dyadic interplay between the epistemological and theoretical commitments of research project and the codes and themes created.

The thematic analysis carried out followed the six phases proposed by Braun and Clarke (2006), 1) Familiarization with the data, 2) Initial code generation, 3) Searching for themes, 4) Reviewing themes, 5 Defining and naming themes, and 6) Producing a report. Paralleling the study's lean towards a theory driven approach, codes were assigned in connection with questions posed in the focus group. These codes were then separated into themes using mind maps; throughout this process attention was paid to given equal time to each code. The thematic focus was primarily on the semantic 'level', themes that describe what the users actual said (Boyatzis, 1998). The analytic process however progressed beyond the pure organisation of semantic patterns as urged by Patton, (1990), to interpretation of the data in relation to the significance of theory, the broader meaning and implications. When themes were completed they were checked for reliability by a second researcher, and inconsistency discussed and resolved.

Thematic analysis was also used in the analysis of the content of RealShare in order to evaluate its use. Special attention was given to the topics and content of discussion generated by the participants, the purpose for which the participants used the site, the type of use that was experienced (e.g. information sharing; information seeking; networking) and how the facilitators' intervention affected participants experience on the site. Finally, we will seek to examine how the content of messages change with different levels of intervention as outlined in the different work packages.

7 ANALYSIS AND DISCUSSION

The study has been driven by the need to explore factors that affect interactivity in the context of an online community. The study was funded by the Teenage Cancer Trust in the UK which has an interest in expanding the use of RealShare at a national level. For this exploratory study, we kept the

community ‘close’ and invited participants to join. We thereafter introduced different interventions in order to encourage participants to interact with each other and we had focus groups and observations to understand their views and experiences at different stages of the project.

The focus groups at the beginning of the study showed that the participants had a clear need for interactivity with other participants and several suggestions were given about how to achieve this: e.g.

"But it would also be nice to have forums so people can ask questions. People can ask, and links to relevant websites and the chance to have blogs if you want to but not have to"

" they can send a message saying has anyone experienced this or can you advise on how to this"

“The need, people will have the need to talk about what they are going through and its's like for example the Joe's trust website, when I was going through my treatment, I used it loads and I would never have gone to Facebook cause I would have needed the support from people who have no idea, I could ask people who knew what they were talking about, I could ask the experts questions, and I could post something on a forum and have loads of responses next day"

The need for interactivity was also shown in Phase 1 of the study where participants were asked to make use of RealShare without any interventions from the facilitators. This was reflected in their opinions about what features that should be added to the forum e.g. the ability to send individual messages to each other, to use emotion icons in their messages and to receive email notifications when a new message is posted. This suggests that young people with cancer have a need to interact with other young people in a similar situation.

“I have thought about: Interactive pages - a bit of fun to be able to send little notes/cards to each other”, female, 26.

During this phase though evidence for the need to have an interactive site was clear, the level of interactivity as such was low with only a few participants taking part. Further with reference to the four key features of interactivity, controllability was the feature that was clearly evident with some participants’ taking the initiative to share their stories and make suggestions for topics to be discussed.

8 CONCLUSIONS

The study presented here is currently under way. At the time of writing, phase 2 of the project is still being carried out. By the time of the conference we will have analysed the second round of focus groups and results from interactivity metric. Therefore we will be able to present and discuss the significance of our examination into interactivity in the online communities literature.

A limitation of the study is that it has taken a focus on person interactivity and not on machine interactivity which has also been discussed in the literature. Moreover, the study shows the appropriateness of interactivity as an evaluation tool for online communities. Future research would need to expand on this by developing interactivity metrics for evaluation.

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